

June 29, 2011 Water Supply Forecast Discussion

We've finished the last Bulletin 120 Update for Water Year 2011. It is posted at <http://cdec.water.ca.gov/cgi-progs/iodir?s=b120up> and includes observed conditions through the morning of Wednesday June 29, 2011. Therefore, it includes all available precipitation data associated with the system that moved through the state on Tuesday.

Forecast Summary:

The projected median April-July runoff now ranges from 144 percent (Shasta Lake, Total Inflow) to 193 percent (Kern River). The changes to the forecast from last week were made due to the precipitation **AND** continuing analysis of flows-to-date relative to historic patterns. The precipitation and varying temperatures in June have increased the challenge of estimating a recedence rate.

Runoff:

For all forecasted rivers, the June flow rates through the 28th are greater than 160 percent of average. For June:

- All rivers from the Feather through the Tule are flowing at a rate greater than 200 percent of average.
- All rivers from the Feather through the Mokelumne are flowing at a rate greater than 250 percent of average.
- The Yuba River is flowing at a rate greater than 280 percent of average.

Precipitation:

Since June 21, 2011 there has been significant precipitation amounts measured over the central and northern Sierra. At least an inch of precipitation fell over these regions during the last several days. Consequently, the seasonal total is now about 72 inches (144 percent of an average water year) for the Northern Sierra 8-Station Index and 63.8 inches (156 percent of an average water year) for the San Joaquin 5-Station Index. For some basins, the precipitation amounts were large enough to produce noticeable jumps in the flow rates.

Snowpack:

In all regions of the Sierra (north, central, south) the average SWC has continued to decrease despite the recent precipitation event. As of today, June 30, the statewide SWC is 4 inches, which is a decrease of one inch compared to June 27 (before the precipitation). This year, as in other wet years, the mystery persists concerning the water content remaining above the highest sensor.

Weather and Climate Outlooks:

The weather forecast for the next six days indicates **NO** precipitation anywhere in the state. During this period, over the northern Sierra, the freezing levels are expected to vary between 15000 and 17000 feet (the highest level is forecast to be on Saturday). Over the central and southern Sierra, the freezing levels are expected to vary between 16000 and 17000 feet. Consequently, continued melt will exist at all elevations of even the highest basins.

The Climate Prediction Center's (CPC) six to ten day outlook (7/5/11-7/9/11) indicates an increased chance of above normal temperatures for all of the state. The same forecast indicates dry weather for the period.

The CPC's one-month outlook for July, updated on June 16, suggests equal chances of above and below normal temperatures and precipitation for all of California.

The CPC's three-month outlook (July-September, updated June 16) suggests equal chances of above and below normal temperatures for California except for the southern end of the Sierra where there is an increased chance of above average temperatures. The same outlook suggests equal chances of above and below normal precipitation for the state except for the far northern portion of the state where below normal precipitation is expected.

In closing, consider a few oddities of the Water Year:

- On January 1, the snowpack in all regions was close to or greater than 1983, one of the wettest years on record
- In the northern and central Sierra, the SWC on June 1 was equal to or greater than the average April 1 SWC
- The San Joaquin 5-Station Precipitation Index, through June, registered only one month that was within 45% of average
- The wettest month, on average, for the Northern Sierra 8-Station Index is January. This year, January was less than 25 percent of average yet the water year total will be over 140 percent of average
- At no time, from the middle of December through the third week of June, did the SWC in the southern Sierra fall below the daily average

This is the last B120 Update email for Water Year 2011.

If you need guidance before the forecasting process starts again next winter, please contact us:

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Important Links

Full Natural Flow Data:

Daily FNF

http://cdec.water.ca.gov/cgi-progs/snowsurvey_ro/FNF

Monthly FNF

http://cdec.water.ca.gov/cgi-progs/snowsurvey_ro/FNFSUM

Seasonal FNF

http://cdec.water.ca.gov/cgi-progs/snowsurvey_ro/FLOWOUT

Precipitation Data:

Northern Sierra 8-Station Precipitation Tabulation Table

http://cdec.water.ca.gov/cgi-progs/products/8-Stations_Tab.pdf

San Joaquin 5-Station Precipitation Tabulation Table

http://cdec.water.ca.gov/cgi-progs/products/5-Stations_Tab.pdf

2011 WY Precipitation Summary

<http://cdec.water.ca.gov/cgi-progs/precip/PRECIPSUM>

Snow Data:

Latest Snow Sensor Report

<http://cdec.water.ca.gov/cgi-progs/snow/PAGE6>

Latest Statewide Summary of Snow Water Equivalents

<http://cdec.water.ca.gov/cgi-progs/snow/DLYSWEQ>

Monthly Snow Course Report

<http://cdec.water.ca.gov/cgi-progs/snow/COURSES>

California Nevada River Forecast Center Snow Melt Guidance Products:

Snow Data and Spring Seasonal Runoff Forecasts

<http://www.cnrfc.noaa.gov/snowmelt.php>

20-Day Snowmelt Guidance (Raw Model Output)

<http://www.cnrfc.noaa.gov/awipsProducts/RNOHFSESP.php>

Peak 1-Day Stream flow Volume and Date Forecast

<http://www.cnrfc.noaa.gov/awipsProducts/RNOHFSSPK.php>

Extended Regional Forecasts:

California Nevada River Forecast Center 6 Day QPF and Snow Level Forecast

<http://www.cnrfc.noaa.gov/awipsProducts/RNOHD6RSA.php>

Climate Prediction Center 6-10 Day Outlook Forecasts

<http://www.cpc.ncep.noaa.gov/products/predictions/610day/>

Climate Prediction Center One-Month Outlook Forecasts

<http://www.cpc.noaa.gov/products/predictions/30day/>

Climate Prediction Center Three-Month Outlook Forecasts

<http://www.cpc.noaa.gov/products/predictions/90day/>